

# LE “LOUIE” CAI

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## EDUCATION

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**University of California, San Diego, Data Science B.S.**

**Sept 2020 – Jun 2024 (Planned)**

- **GPA:** 3.77
- **Minor:** Computer Engineering
- **Relevant Coursework:** Machine Learning, Deep Learning, NLP, Data Analysis, Computer Organization and Systems Programming, Data Structures & Object-Oriented Design, Differential Equations, Linear Algebra, Probability and Statistics, Discrete Mathematics, Components and Design Techniques for Digital Systems

## EXPERIENCE

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**Amazon**

**Jun – Sept 2023**

**Software Development Engineer Intern**

- Utilized React and TypeScript to streamline backend database onboarding with a front-end internal tool.
- Collaborated in an Agile team to ensure responsive and user-friendly interfaces.
- Optimized tool performance using Git, resulting in significantly improved loading times.

**UC San Diego**

**Sept 2023 – Now**

**CSE Tutor - CSE 8A**

- Held office hours and helped students with their questions
- Created scripts to generate class grades from different data sources

## PROJECTS

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**Convolutional Neural Network Image Classification**

**Feb 2022**

- Engineered a bespoke convolutional neural network using PyTorch to classify 20 distinct categories of food images.
- Orchestrated the development and training of the neural network with PyTorch and CUDA, systematically refining network performance through architectural adjustments and hyperparameter tuning.
- Visualized and conducted in-depth analysis of feature maps and filters using Matplotlib.

**Tiktok Reddit Video Automator**

**Aug – Dec 2022**

- Developed a Python script that efficiently downloads trending videos from subreddits using the Reddit API and subsequently automates their upload to TikTok accounts through Python and Selenium.
- Deployed and configured the script on a server, enabling automated video posting with customizable settings, including rest intervals and target subreddits.

**Minecraft Mod Development**

**Jun – Dec 2020**

- Achieved over **2.9 million** downloads on [CurseForge](#) for the Minecraft plugin developed.
- Engineered a plugin to enhance the player experience in Minecraft by introducing interactive in-game items.

## SKILLS

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- **Programming Languages:** Python, R, SQL, Java, C, C++, C#, Bash, HTML, CSS, Typescript
- **Machine Learning/Big Data:** Machine Learning, Deep Learning, pandas, NumPy, matplotlib, scikit-learn, PyTorch, BeautifulSoup4, Request, Selenium, Plotly, FastAPI
- **Framework/Tools:** React, JavaFX, Unity, Linux, Docker, Blender, Gradle, Vim, Git, Jupyter

## ACTIVITIES

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**IEEE F1TENTH IV2023 Championship - Anchorage**

**Jun 2023**

- Constructed two autonomous 1/10 scale RC cars, each equipped with LiDAR sensors and cameras, enabling precise navigation on a racetrack.
- Led the development of advanced navigation algorithms using ROS2 and DonkeyCar.
- Represented UC San Diego and secured fourth place in the championship.